

## RESPONSE TO HFEA CONSULTATION ON HYBRIDS AND CHIMERAS

June 28<sup>th</sup> 2007

1. **The following types of embryo research are already legally permitted and licensed in the UK. Which of them, in your view, are acceptable?**
  - **Research using human embryos donated by IVF patients** Yes
  - **Research using human embryos created specifically for research from donated eggs and sperm** No
  - **Research using clone human embryos created specifically for research through cell nuclear replacement** Yes
  - **No research using human embryos is acceptable**
  - **Not sure/undecided.**
  
2. **Do you think that the HFEA should issue licenses to allow research using cytoplasmic hybrid embryos?**

Not unconditionally, but subject to provisos.

The case of the proposed cytoplasmic hybrids adds complications about the appropriateness of mixing human material and animal gametes and the blurring of the identity of the resulting embryo. We do not think the debate about the percentage humanness of an embryo produced by placing a human nucleus into an enucleated animal egg has been helpful. The argument has been made that such an embryo is 'less than 100%' human in its DNA and therefore cannot have more protection than that afforded to a CNR embryo made entirely with human DNA and currently sanctioned in law. Such approaches are disingenuous because their logic would lead to saying that a true hybrid, arising from human sperm fertilising a non-human primate egg, contains only 50% human DNA and is therefore even less protectable and more acceptable than a cytoplasmic hybrid. Clearly the scientists applying for these licences did feel that the embryonic stem cells they hope to isolate would be sufficiently close to normal human embryonic stems as to be worth producing and researching upon.

The formation of a CNR embryo using human and animal material can elicit feelings of repugnance, especially at the thought of bringing into being someone who is genetically 'not fully human'. This 'yuk' factor is neither a final arbiter of acceptability nor necessarily the artefact of unscientific and uneducated thought. Rather it reminds us to pause and consider carefully where the appropriate boundaries should lie and to seek wisdom to do so. From a Christian perspective, the scriptural distinction of 'kinds' of creatures, taken together with the uniqueness of humans as those made in God's image and prohibitions about bestiality mean that the most stringent restrictions should be in force to prevent such a hybrid being brought to birth.

The prospect of great advances in transplant medicine through stem cell therapy, together with the lucrative development of these therapies is the goal

of this proposed research. While we fully support the discovery of means of alleviating presently untreatable diseases, we are concerned that unrealistic expectations may cause distress and disappointment to sufferers. The impression should not be given that the only route towards stem cell therapies is through the use of cytoplasmic hybrids. Rather, work on the isolation and differentiation of adult stem cells should be encouraged. Furthermore, the elucidation of the mechanism by which a differentiated cell is dedifferentiated when placed in an enucleated egg cell should lead to our being able to produce embryonic stem cells from already differentiated cells thus circumventing the formation of CNR embryos for this purpose.

Many Christians who accept the creation of embryonic stem cells by CNR using only human material feel deeply uncomfortable about creating cytoplasmic hybrids even for research up to 14 days. Given the dubious efficacy of this research and its controversial nature, some assurance should be given to those who are concerned about this development. Our support for this work going ahead has two added provisos.

First, that there is not an unending commitment to using embryos in this way but rather a limitation on the issuing of licences for such research to a period of say five years. If it is shown in this period that little progress can be made using cytoplasmic hybrids, it would signal a genuine commitment to upholding the status of the embryo as defined in law if such licences were then no longer allowed to be issued.

Secondly, we would like to see the Government state an intention that if research into the dedifferentiation of differentiated cells is successful, licences will not be issued for using embryos to obtain embryonic stem cells once these can be derived from differentiated cells.

**3. Do you think that the law should in future permit the creation of true hybrid embryos for licensed research purposes?**

No. We oppose the production of true hybrids. It is not entirely clear that it is really necessary for the law to allow the current exception of the 'hamster egg test' for the viability of human sperm. It appears that no licence has been issued for this since 2003 as ICSI has rendered this test unnecessary. Two submissions to the STC enquiry<sup>1</sup> suggested that a similar test perhaps using mouse eggs is still needed in order to check the chromosomal normality of sperm in suspected cases of male infertility. More information is required in order to discern whether this is so or perhaps if other alternative methods of testing are available which would mean a blanket ban could be imposed on the formation of any true hybrids.

**4. Do you think that the HFEA should in future issue licenses to allow research using human chimera embryos?**

Only on a case by case basis. Although these are not of as great concern as those forms of embryos such as true or cytoplasmic hybrids, which have an inherent ambiguity about their status as human or animal from their beginning,

we would not support a blanket acceptance of them. If such research is to be allowed, it should be licensed only on a case by case basis. The establishment of an Ethics Committee independent of HFEA/RATE would assist in the consideration of this issue, as with other issues.

**5. If you have answered yes to questions 2 to 4, what limits do you think should be placed upon human embryo research?**

See our arguments within each of the answers.

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<sup>i</sup> *Government Proposals for the Regulation of Hybrid and Chimera Embryos*, 2, Ev 4, para.9 and Submission from Prof. Richard Gardner, p.11.